CORTEZ III SERVICE CORPORATION
NASA/GODDARD SPACE FLIGHT CENTER
CODE 239, BLDG 27
GREENBELT, MD 20771
FAX (301) 286-1774

DATE: Feb. 27, 2001 _____ **#PAGES** (including cover sheet)

TO: STANLEY SCHNEIDER
AT: _____
PHONE (VOICE/FAX) _____

FROM: ODELL YOUNG, IMPORT/EXPORT SPECIALIST
PHONE: (301) 286-6388
EMAIL: oyoung@pop200.gsfc.nasa.gov

IF YOU DO NOT RECEIVE ALL TRANSMITTED SHEETS, PLEASE CALL
(301) 286-6388

Comments:

DEPT. OF STATE
ODTC CASE NUMBER TA 0315-01

Mr. Stanley,
Please review the referenced case for concurrence with NPOESS program requirements. Please email your comments/recommendations to me within ten days.

ODELL

DTC CASE REFERRAL DOCUMENT

ADMIN USE	DATE STAFFED	DTC CASE NUMBER
FEB - 1 4 2001		TA 0315-01

APPLICANT: Harris

	Advisory Opinion	X	Agreement - [Mfg], [Tech Assist],]Distribution]		Brokering Request

DTC CASE OFFICER:

DTC Comments: DeSilva

Recommendations and Comments Are Requested From:

X	DTRA/LD		NEA/RA		DRL/MLA		Transmittal Letter
							Attachments, stated on appl
X	NASA		EAP/RSP		OES		Tech data/Descrip Literature
							Statement of Work
	ENERGY		EUR/RPM		PM/RSAT		Order/Ltr of Intent/Contract
							Copy of Agreement
	DOT/USCG		AF/RA		NP/CBM		Copy of previous Approvals
							End Use Certificate/DSP-83
	COMMERCE		WHA/PPCP		DTC/CEB		Import Authorization
							Other (videocassette, etc.)
	L/PM		SA/RA		DTC/RAB		Nothing
							# of Collated Sets
	PKRC		EUR/PRA		NP/ECNP		

REPLY HERE AND RETURN TO DEPARTMENT OF STATE, OFFICE OF DEFENSE TRADE CONTROLS, WASHINGTON, D.C. 20520-0206. Recommendations within 25 working days of date staffed are appreciated. PROVIDE COMMENTS FOR ANY RECOMMENDATION TO DENY OR RETURN WITHOUT ACTION (RWA).

RECOMMENDATION & COMMENTS:

	APPROVE		APPROVE *WITH* PROVISO		RWA		DENY

COMMENTS:

Typed/Printed NAME AND OFFICE SYMBOL SIGNATURE

DATE: Telephone Number:

Proposed

TECHNICAL ASSISTANCE AGREEMENT

Between

HARRIS CORPORATION,
GOVERNMENT COMMUNICATIONS SYSTEMS DIVISION

And

CENTRE NATIONAL D'ETUDES SPATIALES

Prepared 6 February 2001 by

Harris Corporation
Melbourne, Florida
PM/DTC Registrant/Applicant Code: 0501-3664

HARRIS

HARRIS CORPORATION

Corporate Headquarters
1025 West NASA Boulevard
Melbourne, FL USA 32919
phone 321.727.9220
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www.harris.com

PM/DTC Registrant Code
0501-3664

6 February 2001

Mr. William J. Lowell, Director
Office of Defense Trade Controls
PM/DTC, SA-1, 13th Floor
U.S. Department of State
2401 E Street, N.W.
Washington, DC 20037

Subject: Proposed Technical Assistance Agreement between Harris Corporation, Government Communications Systems Division and Centre National d'Etudes Spatiales for the National Polar-orbiting Operational Environmental Satellite System (NPOESS).

Dear Mr. Lowell:

Submitted herewith are seven copies of this letter and eight copies of a proposed Technical Assistance Agreement, collated into eight sets, between Harris Corporation, through its Government Communications Systems Division ("Harris GCSD"), a U.S. corporation, and Centre National d'Etudes Spatiales (CNES), France, for the transfer of certain technical information and assistance necessary for the implementation of the National Polar-orbiting Operational Environmental Satellite System (NPOESS).

Harris GCSD is a subcontractor to Lockheed Martin Missiles & Space ("LMMS") for the NPOESS Program. LMMS is under contract (Number F04701-00-C-0501) with the U.S. Government's Integrated Program Office (IPO), which is comprised of Department of Commerce, NASA, and Department of Defense representatives. The LMMS Prime contract is for the Program Definition and Risk Reduction (PDRR) phase of the NPOESS Program. The IPO has two PDRR prime contractors, LMMS and TRW.

LMMS desires to exchange technical data and provide defense services to CNES relating to the requirement to integrate the Data Collection System (DCS) and the Search and Rescue Processor (SARP) instruments (collectively known as ARGOS) onto the LMSS baseline satellite for the NPOESS program. This includes the requirements to evaluate the performance of the algorithms for the retrieval of environmental parameters produced by the ARGOS instruments.

CNES is under contract with the IPO to provide both the ARGOS instruments and its retrieval algorithms for environmental parameters.

It is the intent of the IPO to provide the ARGSOS to the contractor (either LMMS or TRW) selected for the Engineering and Manufacturing Development phase of NPOESS. The EMD contractor (either LMMS or TRW) will by necessity share information with their subcontractors (Harris GCSD or Raytheon) for the Interface Data Processor Segment (IDPS) development and support. Therefore CNES has to receive technical data and defense services related to the integration of the ARGOS and its retrieval algorithms onto the LMMS baseline satellite designed for NPOESS.

In accordance with 22 CFR 124.12, the following information is provided:

(a)(1) The DTC applicant code is: 0501-3664.

(a)(2) The licensee is the Centre National d'Etudes Spatiales (hereinafter referred to as "CNES") whose office is situated at the Centre Spatial de Toulouse, 18 Avenue Eduoard Belin, 31055 Toulouse Cedex, France. The scope of this agreement entails Harris Corporation disclosing unclassified technical data to CNES related to the retrieval of algorithms for environmental parameters. This Agreement is valid through 31 December 2008.

(a)(3) Harris has executed numerous space programs for U.S. Air Force and NASA customers which have content similar in nature to that being procured for the NPOESS Program. One example is the Defense Meteorological Satellite Program (DMSP) for the U.S. Air Force, Contract Nos. F04701-94-C-0038, and F04701-98-C-0135. Our DMSP work for the Air Force goes back to the mid-1960's. With regard to the retrieval algorithms, Harris has taken environmental parameter retrieval algorithms and used them so that meaningful weather information can be processed and displayed.

(a)(4) All data to be transferred will be unclassified.

(a)(5) There are no patent applications, which disclose any of the subject matter of the equipment or technical data, covered by an invention secrecy order issued by the U.S. Patent and Trade Office.

(a)(6) Harris is supplying an estimated value of $20,000,000 of data and services over the 8-year validity period of this Agreement. This estimate is based upon the proposals submitted for the baseline and any additional options, which could be exercised over the term of the contract. No political contributions, fees, or commissions have been paid pursuant to ITAR Part 130. No offset agreement is proposed to be entered into in connection with the agreement.

(a)(7) There will be no foreign military sales, credits or loan guarantees involved in financing the Agreement.

(a)(8) Not applicable. (There will be no classified data transferred under this Agreement.)

(a)(9) Not applicable. (There will be no classified data transferred under this Agreement.)

(b)(1) If the Department of State approves the Agreement, Harris will not construe such approval as passing on the legality of the Agreement from the standpoint of antitrust laws or other applicable statutes, nor will Harris construe the Department's approval as constituting either approval or disapproval of any of the business terms or conditions between the parties to the Agreement.

(b)(2) Harris will not permit the proposed Agreement to enter into force until the Department of State has approved it.

(b)(3) Harris will furnish the Department of State with one copy of the signed Agreement within 30 days from the date that the Agreement is concluded and will inform the Department of its termination not less than 30 days prior to the expiration and provide information on the continuation of any foreign rights or the flow of technical data to the foreign party. If a decision is made not to conclude the proposed Agreement, Harris will so inform the Department within 60 days.

(b)(4) If this Agreement grants any rights to sub-license, it will be amended to require that all sub-licensing agreements incorporate all the provisions of the basic Agreement that refer to the U.S. Government and the Department of State (i.e., 22 CFR 124.9 and 124.10).

To facilitate U.S. Government consideration of this request, the Agreement contains the following provisions currently required by the ITAR:

Pursuant to 22 CFR 124.7:

CFR Section	Agreement Reference
124.7(1)	Article 2, Section 2.2.1, Page 5
124.7(2)	Article 2, Section 2.2.2, Page 5
124.7(3)	Article 2, Section 2.2.3, Page 6
124.7(4)	Article 2, Section 2.2.4, Page 6

Pursuant to 22 CFR 124.8:

CFR Section	Agreement Reference
124.8(1)	Article 2, Section 2.3.1, Page 6
124.8(2)	Article 2, Section 2.3.2, Page 6
124.8(3)	Article 2, Section 2.3.3, Page 6
124.8(4)	Article 2, Section 2.3.4, Page 6
124.8(5)	Article 2, Section 2.3.5, Page 7
124.8(6)	Article 2, Section 2.3.6, Page 7

No defense articles will be shipped in furtherance of this Agreement. Only technical data in the form of assembly specifications for units under consideration for procurement will be provided.

This agreement relates to U.S. Munitions List Category XV – Spacecraft Systems and Associated Equipment. This category is not designated as Significant Military Equipment (SME).

Harris Corporation has retained the law firm of Holland & Knight, LLP, Washington, DC, to represent Harris regarding this matter. Harris Corporation authorizes Ronald A. Oleynik, Esq., or any other attorney from Holland & Knight to act as our agent with respect to related ODTC licensing issues. If you should have any questions or require additional information concerning this Agreement, please contact me at (321) 674-4596.

Sincerely,

Jean M. Florin

Jean M. Florin
Senior Administrator
Corporate Export/Import Compliance

Enclosures (8 Copies):

1) Transmittal Letter
2) Proposed TAA including Statement of Work
3) Letter of Transmittal Certification Letter per ITAR 126.13

7 February 2001

TECHNICAL ASSISTANCE AGREEMENT

BETWEEN

HARRIS CORPORATION,
GOVERNMENT COMMUNICATIONS SYSTEMS DIVISION

AND

CENTRE NATIONAL d'ETUDES SPATIALES

This Agreement is entered into between Harris Corporation, a corporation of the State of Delaware, for its Government Communications Systems Division (hereinafter referred to as "HGCSD") with offices at 150 South Wickham Road, P.O. Box 37, Melbourne, Florida, United States of America, 32902-0037, and the Centre National d'Etudes Spatiales (hereinafter referred to as "CNES") whose office is situated in the Centre Spatial de Toulouse, 18 Avenue Eduoard Belin, 31055 Toulouse Cedex, France, and is effective upon the date of signature of the last party to sign the Agreement. Lockheed Martin Space Systems Company Missiles & Space – Sunnyvale Operations (hereinafter referred to as "LMSS/MSSO") and CNES are hereinafter referred to as the Parties.

RECITALS

WHEREAS, LMSS/MSSO is under contract (Number F04701-00-C-0501) with the Integrated Program Office comprised of Department of Commerce, NASA and the Department of Defense (see Statement of Work), for the National Polar-orbiting Operational Environmental Satellite System (NPOESS) program; and

WHEREAS HGCSD is a sub-contractor to LMSS/MSSO for the NPOESS program; and

WHEREAS, HGCSD desires to exchange technical data with, and provide defense services to, CNES relating to the requirements to integrate the Data Collection System (DCS) and Search and Rescue Processor (SARP) instruments (collectively known as ARGOS) onto the LMSS baseline satellite for the NPOESS program; and

WHEREAS, CNES desires to provide the DCS and SARP instruments to the IPO; and

WHEREAS, it is the intent of the IPO to provide the DCS and SARP to the contractor (LMSS/MSSO or TRW) selected for the Engineering and Manufacturing Development phase of NPOESS; and

WHEREAS, the Integrated Program Office (IPO) will obtain its own import and export licensing from the Department of State as required; and

WHEREAS, CNES desires to receive technical data and defense services related to the integration of the DCS and SARP onto the LMSS/MSSO baseline satellite being designed for NPOESS.

NOW THEREFORE, the parties desire to enter into this Technical Assistance Agreement as follows:

ARTICLE 1: GENERAL TERMS

1.1 This Technical Assistance Agreement is intended to enable HGCSD to perform defense services and disclose technical data during the Program Definition and Risk Reduction (PDRR) Phase in support of the requirements to integrate the DCS and SARP instruments onto the baseline NPOESS satellites.

There are several phases to the NPOESS program.

1.1.1 The Development of Environmental Sensors

1.1.1.1 Beginning in 1997, the IPO issued contracts for the development of five major sensors that are to be integrated on future NPOESS satellites. An important element of the contract is the ultimate delivery to the IPO of the sensor plus algorithms that allow environmental parameters to be retrieved from the remotely-sensed data. In addition, the NPOESS Spacecraft will host a number of previously developed (leveraged) sensors. One of the leveraged sensors is ARGOS, which is comprised of the Data Collection System (DCS) and the Search and Rescue Processor (SARP) developed by CNES.

1.1.1.2 As required, the IPO will obtain its own import/export licensing from the Office of Defense Trade Controls for the delivery of the ARGOS.

1.1.2 The Program Definition and Risk Reduction (PDRR)

1.1.2.1 LMSS/MSSO is currently under contract (Number F04701-00-C-050) with the IPO. The contract is for the

NPOESS Program Definition and Risk Reduction (PDRR) phase to provide a single, national polar-orbiting remote sensing capability to acquire, receive, and disseminate global and regional environmental data. HGCSD is a subcontractor to LMMS/SSO for the NPOESS program. A similar competitive PDRR contract was awarded in December 1999 to TRW by the NPOESS IPO, and a down-select contract will be awarded to either LMSS/MSSO or TRW for the Engineering and Manufacturing Development (EMD)/Production phase of the NPOESS program. One element of the PDRR contract is to reduce the risk of integrating the five NPOESS developed sensors and the leveraged sensors onto the baseline of the LMSS/MSSO satellite. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

1.1.2.2 During the PDRR phase of the contract, LMSS/MSSO will develop baseline architecture for integrating all NPOESS sensors onto a satellite. In order to develop a viable baseline, LMSS/MSSO will exchange information with CNES on the physical, electrical, mechanical, and thermal characteristics of the ARGOS.

1.1.2.3 Harris will be analyzing information from CNES to determine system loading effects and developing methods for interpreting and processing the data formats. This effort will ensure that data is in a usable form before relay to the Weather Central's processing system.

1.1.2.4 Similarly, during the LMSS/MSSO PDRR phase of the program, CNES will acquire information from LMSS/MSSO relating to the satellite constraints for the physical mounting of the ARGOS. The outcome of the interchange will be a satellite design that incorporates the ARGOS in a manner that is feasible, economical, and optimizes overall performance.

1.1.2.5 It is expected that CNES will acquire from Harris information relative to format limitations associated with the initial processing and routing of surface data collection information to a Weather Central.

1.1.2.6 The primary exchange of information to be carried out under this Agreement will take place during the PDRR phase of the NPOESS program - namely from 1 May 2000 through 31 December 2002.

1.1.2.7 For further information, see the attached Statement of Work.

1.1.3 The Engineering and Manufacturing Development (EMD)/Production

1.1.3.1 Prior to the end of the PDRR phase, LMSS/MSSO will begin preparing its proposal for the EMD phase of the NPOESS program. HGCSD, as a subcontractor to LMSS/MSSO, will need to exchange technical data and defense services with CNES to write its portion of a successful proposal. The EMD/Production will call for the building of three satellites with an option to build four additional satellites. Although the sensor complement for each of the satellites is variable, the plan is to incorporate a DCS and SARP sensor on each of the seven NPOESS satellites. At an early stage in the EMD/Production phase, the IPO will transfer the responsibility for the operation, maintenance, upgrading, and performance of the sensors to the successful EMD/Production contractor; i.e. either LMSS/MSSO or TRW. If selected for the EMD phase, LMSS/MSSO will amend its Agreement with CNES to accommodate these additional tasks.

1.1.3.2 Harris will be assisting LMMS/MSSO in this effort to ensure that data is properly allocated to appropriate data channels in a manner that provides reliable data identification prior to relay to a Weather Central. Harris will also be responsible for detecting and reporting errors in the data caused by transmission or other difficulties. This effort requires an understanding of the data and related formats.

1.2 It is understood that this Technical Assistance Agreement is entered into as required under U.S. Government regulations and, as such, it is an independent agreement between the parties, the terms of which will prevail, notwithstanding any conflict or inconsistency that may be contained in other arrangements between the Parties on the subject matter.

ARTICLE 2: ITAR COMPLIANCE

2.1 The parties agree to comply with all applicable sections of the International Traffic in Arms Regulations (ITAR) of the U.S. Department of State and that, more particularly, in accordance with such regulations the following conditions apply to this Agreement:

2.2 Compliance with ITAR Section 124.7 (Information Required in all Technical Assistance Agreements):

2.2.1 ITAR Section 124.7(1) (Defense articles to be exported):

2.2.1.1 Data to be exchanged includes that necessary to integrate the ARGOS sensors with an NPOESS baseline spacecraft. Such data includes the requirements for (A) spacecraft to instrument interface specifications, (B) test plans, procedures and resulting data specific to the instrument interface and instrument performance, and (C) interface drawings and analysis for instrument specific mechanical, thermal, electrical, data processing, flight software and fields-of-view analysis (optical, radio frequency, and thermal - see attached Statement of Work).

2.2.1.2 All technical data and defense services transferred by CNES to LMSS/MSSO under this agreement pertain solely to the interface between the LMSS/MSSO architecture of the baseline spacecraft and the ARGOS sensor and does not represent a transfer of technical data or defense services specific to the design, manufacture, assembly or test of the NPOESS spacecraft itself. LMSS/MSSO will transfer CNES software interface specifications pertaining to ARGOS specific flight software data processing and ground support. No LMSS/MSSO software code or algorithms will be exchanged.

2.2.1.3 Harris will discuss, as required, technical details of the ARGOS system with CNES to ensure proper integration of ARGOS data relay through the NPOESS Interface Data Processing Segment. As necessary, detailed portions of the design may be forwarded to CNES to facilitate these discussions.

2.2.1.4 As currently envisioned, HGCSD does not anticipate any requirement to export HGCSD owned hardware in connection with this Agreement, nor will HGCSD import or export CNES owned hardware. An ARGOS instrument and associated CNES owned special test equipment may be returned to the NPOESS IPO. The IPO will assume the responsibility for obtaining its own export/import licenses from the Office of Defense Trade Controls pertaining to this Agreement.

2.2.2 ITAR Section 124.7(2) (Description of Defense Services and Technical Data to be Furnished):

The technical assistance and data to be provided under this Agreement includes all tasks associated with the specifications for receiving, inspecting, bench level testing, installing on the baseline spacecraft, aligning on the baseline spacecraft, functionally

verifying the instrument-to-spacecraft interface via spacecraft level testing and storing. Additionally, LMSS/MSSO will assist CNES in establishing the methodology for the review of instrument level and spacecraft level interface test data and anomaly resolution as required.

2.2.3 Agreement Duration (124.7(3)).

The Agreement is valid through 31 December 2008.

2.2.4 Location of Exports (124.7(4)).

The effort intended to be accomplished under this agreement will take place in France or the United States of America. There is no other country or area in which manufacturing, processing, sale or other form of transfer is to be licensed.

2.3 ITAR Section 124.8

2.3.1 Clause required by 124.8(1):

This Agreement shall not enter into force and shall not be amended or extended without the prior written approval of the Department of State of the U.S. Government.

2.3.2 Clause required by 124.8(2):

This Agreement is subject to all United States laws and regulations relating to exports and to all administrative acts of the U.S. Government pursuant to such laws and regulations.

2.3.3 Clause required by 124.8(3):

The Parties to this Agreement agree that the obligations contained in this Agreement shall not affect the performance of any obligations created by prior contracts or subcontracts, which the Parties may have individually or collectively with the U.S. Government.

2.3.4 Clause required by 124.8(4):

No liability will be incurred by or attributed to the U.S. Government in connection with any possible infringement of privately owned patent or proprietary rights, either domestic or foreign, by reason of the U.S. Government's approval of this Agreement.

2.3.5 Clause required by 124.8(5):

The technical data or defense service exported from the United States in furtherance of this Agreement and any defense article which may be produced or manufactured from such technical data or defense service may not be transferred to a person in a third country or to a national of a third country except as specifically authorized in this Agreement unless the prior written approval of the Department of State has been obtained.

2.3.6 Clause required by 124.8(6):

All provisions in this Agreement which refer to the United States Government and the Department of State will remain binding on the Parties after the termination of the Agreement.

It is understood that disclosure of information by CNES to HGCSD is subject to any rules, restrictions or laws of France.

Technical data relating to this program may be exchanged between CNES contractors/subcontractors provided that, prior to the release of any technical data, CNES executes a Non-Disclosure Agreement (NDA) with each company. The NDA will incorporate all of the provisions of the basic Agreement which refer to the U.S. Government and the Department of State (i.e., 22 CFR 124.8 and/or 124.9). Copies of the executed NDAs referencing this Agreement by number will be provided to and maintained by HGCSD for five years from the expiration of the Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed effective as of the day and year provided below.

Harris Corporation	**Centre National d'Etudes Spatiales**
By _____	**By** _____
Printed Name _____	**Printed Name** _____
Title _____	**Title** _____
Date _____	**Date** _____

STATEMENT OF WORK

Between

Harris Corporation,
Government Communications Systems Division

And

Centre National d'Etudes Spatiales (CNES)

For the

Data Collection System (DCS) and
Search and Rescue Processor (SARP) Sensors

TABLE OF CONTENTS

1.0 INTRODUCTION

This Technical Assistance Agreement is intended to enable HGCSD to perform defense services and disclose technical data during the Program Definition and Risk Reduction (PDRR) Phase in support of the requirements to integrate the Data Collection System (DCS) and Search and Rescue Processor (SARP) sensors (collectively referred to as ARGOS) onto the baseline NPOESS satellites.

There are several phases to the NPOESS program.

(i) The Development of Environmental Sensors

Beginning in 1997, the IPO issued contracts for the development of five major sensors that are to be integrated on future NPOESS satellites. An important element of the contracts is the ultimate delivery to the IPO of the sensor plus algorithms that allow environmental parameters to be retrieved from the remotely-sensed data. In addition the NPOESS Spacecraft will host a number of previously developed (leveraged) sensors. One of the leveraged sensors is ARGOS, which is comprised of the Data Collection System (DCS) and the Search and Rescue Processor (SARP) developed by CNES.

As required, the IPO will obtain its own import/export licenses from the Office of Defense Trade Controls for the delivery of the ARGOS.

(i) The Program Definition and Risk Reduction

LMSS/MSSO is currently under contract (Number F04701-00-C-0501) with the IPO. The contract is for the NPOESS Program Definition and Risk Reduction (PDRR) phase to provide a single, national polar-orbiting remote sensing capability to acquire, receive, and disseminate global and regional environmental data. HGCSD is a sub-contractor to LMSS/MSSO for the NPOESS program. A similar competitive PDRR contract was awarded in December 1999 to TRW by the NPOESS IPO, and a down-select contract will be awarded to either LMSS/MSSO or TRW for the Engineering and Manufacturing Development (EMD)/Production phase of the NPOESS program. One element of the PDRR contract is to reduce the risk of integrating the five NPOESS developed sensors and the leveraged sensors onto the baseline of the LMSS/MSSO satellite. The PDRR phase will end on 30 March 2002 or, if an option to the contract is exercised, on 31 December 2002.

During this phase of the contract, LMSS/MSSO will develop baseline architecture for integrating all NPOESS sensors onto a satellite.

In order to develop a viable baseline, LMSS/MSSO will exchange information with CNES on the physical, electrical, mechanical, and thermal characteristics of the ARGOS.

Similarly, during the LMSS/MSSO PDRR phase of the program, CNES will acquire information from LMSS/MSSO relating to the satellite constraints for the physical mounting of the ARGOS. The outcome of the interchange will be a satellite design that incorporates the ARGOS in a manner that is feasible, economical, and optimizes overall performance.

The primary exchange of information to be carried our under this Agreement will take place during the PDRR phase of the NPOESS program - namely from 1 May 2000 through 31 December 2002.

(iii) The Engineering and Manufacturing Development (EMD)/Production

Prior to the end of the PDRR phase, HGCSD, as a subcontractor to LMSS/MSSO, will begin preparing its proposal for the EMD phase of the NPOESS program. LMSS/MSSO will need to exchange technical data and defense services with CNES to write a successful proposal. The EMD/Production will call for the building of three satellites with an option to build four additional satellites. Although the sensor complement for each of the satellites is variable, the plan is to incorporate a DCS and SARP sensor on each of the seven NPOESS satellites. At an early stage in the EMD/Production phase, the IPO will transfer the responsibility for the operation, maintenance, upgrading, and performance of the sensors to the successful EMD/Production contractor; i.e. either LMSS/MSSO or TRW. If selected for the EMD phase, LMSS/MSSO will amend its Agreement to accommodate these additional tasks.

Harris will be assisting LMMS/MSSO in this effort to ensure that data is properly allocated to appropriate data channels in a manner that provides reliable data identification prior to relay to a Weather Central. Harris will also be responsible for detecting and reporting errors in the data caused by transmission or other difficulties. This effort requires an understanding of the data and related formats.

2.0 SCOPE

The scope of this effort during the PDRR phase of the LMSS/MSSO contract with the IPO, consists of LMSS/MSSO exchanging technical data and providing defense services to CNES necessary for the accommodation of the ARGOS sensors. The ARGOS is currently being

provided to the NPOES Program by CNES. The work will enable LMSS/MSSO and CNES to disclose technical data and provide defense services in support of the integration of the ARGOS sensors onto the baseline architecture of the LMSS/MSSO satellite that is proposed for the National Polar-orbiting Operational Environmental Satellite System (NPOESS).

Harris will be analyzing information from CNES to determine system loading effects and developing methods for interpreting and processing the data formats. This effort will ensure that data is in a usable form before relay to the Weather Central's processing system.

3.0 OBJECTIVE

The objective of the effort is to exchange technical data and provide defense services associated with installing the ARGOS sensors on an LMSS/MSSO baseline spacecraft. The work includes information on the requirements for (1) the alignment of the ARGOS on the spacecraft, and (2) functionally verifying the instrument-to-spacecraft interface.

In addition, the Harris effort will entail ensuring that the NPOESS Interface Data Processing and associated networking is able to receive and process the ARGOS formats.

Such technical data to be exchanged includes, but is not limited to (1) spacecraft to instrument interface specifications, (2) test plans and procedures specific to the instrument interface and instrument performance, and (3) interface drawings and analysis for instrument specific mechanical, thermal, electrical, data processing (including data format issues), flight software and fields-of-view analysis (optical, radio frequency, and thermal).

4.0 TASK DESCRIPTIONS

The following services and technical data are required in order to support the integration of the CNES ARGOS sensors on the baseline architecture of the LMSS/MSSO satellite for the NPOESS. In addition, these services will support the development of the Harris Interface Data Processing Segment and its processing/routing of the formatted ARGOS data.

4.1 LMSS/MSSO Interface Specifications and Drawings Applicable to ARGOS

4.1.1 Description

Review all CNES ARGOS inputs to the draft Unique Instrument Interface Control Document (ICD) and the General Instrument Interface Specification (GIIS).

The task will include the following:

- Review the CNES inputs to the Interface Control Documents and confirm that the Interfaces are compatible with the baseline architecture of the LMSS/MSSO NPOESS satellite.

- Review all interface drawings and analyses - prepared with joint input by LMSS/MSSO and CNES - applicable to ARGOS; these include:

  - Mechanical interfaces,
  - Thermal interfaces,
  - Electrical interfaces,
  - Fields-of-view (optical, thermal, and radio frequency), and spacecraft configuration

4.1.2 Approach

- LMSS/MSSO will analyze all ARGOS interface documents and ensure that the interfaces are consistent with the requirements of the LMSS/MSSO NPOESS satellite.

- LMSS/MSSO will interface directly with CNES personnel to resolve any discrepancies between the proposed ARGOS interfaces and the LMSS/MSSO satellite.

- LMSS/MSSO will document their evaluation of the interface documents.

4.1.3 Schedule

The review of the interface documents will occur between March and December of 2000.

4.2 Test Plans and Procedures Applicable to ARGOS

4.2.1 Description

Review all CNES ARGOS test plans and procedures that are applicable to NPOESS

The task will include the requirements for the following tests and procedures:

- Instrument bench tests
- Spacecraft interface tests
- Spacecraft level tests
- Spacecraft environmental tests
- ARGOS instrument installation procedures

4.2.2 Approach

- LMSS/MSSO will analyze all proposed test plans and procedures that relate to the integration of the ARGOS onto an LMSS/MSSO satellite.

- LMSS/MSSO will interface directly with CNES personnel to resolve any discrepancies between the proposed ARGOS tests and LMSS/MSSO standard procedures.

- LMSS/MSSO will document their evaluation of test procedures.

4.2.3 Schedule

The review of the interface documents will occur between March 2000 and March of 2001.

4.3 Software Specifications applicable to ARGOS

4.3.1 Description

Review CNES software specifications applicable to ARGOS.

The task will include reviews of the following software specifications:

- Specifications of the ground processing of the ARGOS sensor data

- Interface specific flight software specifications

4.3.2 Approach

- LMSS/MSSO will analyze the specifications of the ground processing of data received from the ARGOS instrument.

- LMSS/MSSO will review and analyze the software specifications for flight software between the ARGOS instrument and the LMSS/MSSO baseline satellite.

4.3.3 Schedule

The review of the interface documents will occur between March 2000 and December 2001.

4.4 Host or Attend Meetings for the Exchange of Technical ARGOS Data

4.4.1 Description

Attend technical interchange meetings involving ARGOS.

The task will include participation in the following types of reviews:

- Design reviews
- Technical Interchange Meetings (TIMs)
- Test support reviews
- ARGOS and LMSS/MSSO satellite baseline data
- On-orbit anomaly review and resolution

4.4.2 Approach

At the request of the NPOESS Integrated Program Office, LMSS/MSSO will attend reviews and technical interchange meetings that are required to coordinate the integration of the ARGOS sensor onto an LMSS/MSSO baseline spacecraft.

4.4.3 Schedule

Interface meetings between CNES and LMSS/MSSO will occur between March 2000 and December 2002.

5.0 DELIVERABLES

Reports of the major interchange meetings will be delivered to the NPOESS IPO within 30 days of each meeting. Interchange meetings are planned at approximately six-month intervals through December 2002.

HARRIS

HARRIS CORPORATION

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DTC Applicant Code 0501-3664

6 February 2001

Mr. William J. Lowell
Director
Office of Defense Trade Controls (PM/DTC)
U.S. Department of State
2401 E Street, NW, Annex SA-1
Washington, D.C. 20037

Dear Mr. Lowell:

I, the undersigned, am a U.S. person as defined in 22 C.F.R § 120.15, and I am a responsible official empowered by Harris Corporation to certify the following in compliance with 22 C.F.R. § 126.13:

1. Neither Harris, its chief executive officer, president, vice presidents, other senior officers or officials (e.g., comptroller, treasurer, general counsel) nor any member of the board is:

a. the subject of an indictment for or has been convicted of violating any of the U.S. criminal statutes enumerated in 22 C.F.R. § 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Stat. 729 (June 30, 1976); or

b. ineligible to contract with, or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government;

2. To the best of my knowledge, no party to the export as defined in Section 126.7(e) has been convicted of violating any of the U.S. criminal statutes enumerated in 22 C.F.R. § 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Stat. 729 (June 30, 1976) or is ineligible to contract with, or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government, and

3. The natural person signing the application for the license or other request for approval is a responsible official who has been empowered by Harris and is a citizen of the United States.

Because the enclosed TAA application proposes only the provision of technical data and defense services, but no export of defense items, no list of consignors, freight forwarders, consignees, and intermediate consignees is enclosed.

Sincerely,

Jean M. Florin

JEAN M. FLORIN
SENIOR ADMINISTRATOR
CORPORATE EXPORT/IMPORT COMPLIANCE